roaming traffic. According to one embodiment of the invention, for calls with the subscriber located in a region other than the geographic region to which the subscriber is assigned, billing information is passed to the existing network regarding location of the subscriber only through the interface that serves the region to which the subscriber is assigned.

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Delete the paragraph starting on line 13, page 11 and ending on line 19, page 11 and replace such paragraph with the following:

In another embodiment ~~to~~ of the invention, the home interface device keeps track of the location of each subscriber assigned to it by communication from circuitry ATC and therefore can directly page the correct radio port controller for a terminating call without having the circuitry ATC broadcast the page to all interface devices connected to it. Because the home interface device updates its database as the location is updated in the circuitry ATC, an advantage is gained that the interface device does not need to query the circuitry ATC.

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Please add the following paragraph on page 23, starting at line 3:

Communication with a mobile subscriber has been described. However, according to one embodiment of the invention, communication between a circuitry coupled to the set of interfaces and the subscriber takes place entirely over a land line system.

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In the Claims

1. (Currently Amended) A method of modifying an existing telephone network, the method comprising:

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coupling interface devices to the telephone network, the interface devices coupled to circuitry coupled to radio transceivers that service mobile subscribers that may be located in

ones of ~~the~~ various geographic regions, the mobile subscribers each being assigned to a respective geographic region;

~~wherein~~ coupling the interface devices ~~are coupled~~ to circuitry that, when a subscriber is located in a region other than a geographic region to which the subscriber is assigned, routes a call with the mobile subscriber through a path including a radio transceiver that serves the region in which the mobile subscriber is currently located and an interface device that serves the region to which the subscriber is assigned; and

wherein the subscriber has a set of directory numbers and each call is associated with at least one directory number, and for a call to the mobile subscriber, the circuitry coupled to the set of interfaces, upon detecting that the mobile subscriber is located outside the mobile subscriber's home region, routes the call depending on instructions in a subscriber service profile, the instructions being associated with the directory number that is associated with the call.

2. (Original) The method of claim 1, wherein the existing telephone network comprises a public switched telephone network (PSTN).

3. (Original) The method of claim 1, wherein the path between the radio transceiver and the interface device in the region to which the subscriber is assigned does not include the existing telephone network.

4. (Original) The method of claim 1, wherein the path between the radio transceiver and the interface device that serves the region to which the subscriber is assigned includes the existing telephone network.

5. (Original) The method of claim 1, wherein the path between the radio transceiver and the interface device that serves the region to which the subscriber is assigned includes an E1 link.

6. (Original) The method of claim 1, wherein the path between the transceiver and the interface device that serves the region to which the subscriber is assigned includes an interface that serves the region in which the subscriber is located.

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7. (Original) The method of claim 1, wherein the path between the transceiver and the interface device that serves the region to which the subscriber is assigned includes a device that is coupled to the interface devices via bearer and control channels.

8. (Original) The method of claim 1, wherein, for calls with the subscriber located in a region other than the geographic region to which the subscriber is assigned, billing information is passed to the existing network regarding location of the subscriber only through the interface that serves the region to which the subscriber is assigned.

9. (Original) A communications system comprising:

a first network dispersed throughout a national area;

a second network coupled to the first network by interfaces in a plurality of geographic regions in the national area, the second network including radio transceivers for communicating with subscribers located in the plurality of geographic regions, each subscriber having a home region, various subscribers being located outside of their home regions; and

circuitry that routes all communication between a subscriber and the first network through an interface between the first network and the second network in the subscriber's home region.

10. (Original) The communications system of claim 9, wherein the first network comprises a PSTN.

11. (Original) The communications system of claim 9, wherein the circuitry that routes all communication includes a computer coupled to bearer and control channels coupled to the interfaces for routing, between the respective interfaces, calls with subscribers located outside their respective home regions.

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12. (Currently Amended) A communications system comprising:

a set of interfaces adapted to be coupled to a PSTN, the interfaces configured to serve various geographic regions within a national area;

circuitry coupled to the set of interfaces that, for communication between the PSTN and a subscriber located in a region in the national area other than a region served by an interface to which the subscriber is assigned, causes the communication to take place via the interface to which the subscriber is assigned.

13. (Original) The communications system of claim 12, wherein the circuitry coupled to the set of interfaces is coupled to the interfaces via an E1 interface.

14. (Original) The communications system of claim 12, wherein communication between the circuitry coupled to the set of interfaces and the subscriber takes place entirely over a land line system.

15. (Original) The communications system of claim 12, including circuitry coupled to the set of interfaces that converts a signal from the subscriber to packets before passing the signal to the PSTN.

16. (Original) The communications system of claim 12, wherein communication between the circuitry coupled to the set of interfaces and the subscriber takes place at least partially by radio transmission.

17. (Currently Amended) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

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radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region;

wherein the subscriber has a set of directory numbers and each call is associated with at least one directory number, and for a call to the mobile subscriber, the circuitry coupled to the set of interfaces, upon detecting that the mobile subscriber is located outside the mobile subscriber's home region, routes the call depending on instructions in a subscriber service profile, the instructions being associated with the directory number that is associated with the call.

18. (Original) The communications system of claim 17, wherein, for a call to a mobile subscriber, the circuitry coupled to the set of interfaces determines the region in which the mobile subscriber is located and routes the call through a path including the interface that serves the mobile subscriber's home region and the interface that serves the region in which the mobile subscriber is located.

19. (Cancelled)

20. (Currently Amended) The communications systems of claim 17 [[19]], wherein, depending on the instructions in the subscriber service profile, the call is routed to one of (a) the subscriber, (b) another subscriber, and (c) a voice mail box.

21. (Original) The communications system of claim 17, wherein, for a call from a mobile subscriber, the circuitry coupled to the set of interfaces routes the call through a path including the interface in the region in which the mobile subscriber is located and the interface in the mobile subscriber's home region.

22. (Original) The communications system of claim 17, wherein the mobile subscriber has a transceiver with circuitry that transmits information regarding the mobile subscriber's home region to the circuitry coupled to the set of interfaces.

23. (Original) The communications system of claim 17, wherein the circuitry coupled to the set of interfaces comprises computer systems located in different areas, a computer system located in each respective area routing calls between the interfaces in the respective area.

24. (Original) The communications system of claim 17, wherein the circuitry coupled to the set of interfaces comprises multiple computer systems, each computer system coupled to sets of bearer and control channels and each computer system coupled to the other computer systems by a common control bus.

25. (Original) The communications system of claim 24, wherein the common control bus comprises a physically localized local area network.

26. (Original) The communications system of claim 24, wherein the common control bus comprises a physically distributed internet.

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27. (Original) The communications system of claim 23, wherein the computer systems located in each respective area are coupled to multiple others of the computer systems located in the respective other areas.

28. (Original) The communications system of claim 17, wherein the circuitry that routes the call routes the call through a path including the PSTN between the mobile subscriber and the interface device that serves the subscriber's home region.

29. (Original) The communications system of claim 17, wherein the interface devices include roaming gateways coupled to the PSTN and coupled via a control bus to the circuitry that routes the call.

30. (Original) The communications system of claim 29, wherein the control bus comprises a physically localized local area network.

31. (Original) The communications system of claim 29, wherein the control bus comprises a physically distributed internet.

32. (Original) The communications system of claim 29, wherein the circuitry that routes the call routes the call through a path including the PSTN assigns routing numbers to each interface device from among a pool of reserved PSTN numbers and releases the routing numbers upon call completion.

33. (Currently Amended) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interfaces that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves in the mobile subscriber's home region;

wherein the path between the subscriber and the interface device in the mobile subscriber's home region includes a portion of the PSTN; and

wherein the portion of the path through the PSTN between the subscriber and the interface device and the mobile subscriber's home region is obtained based on a routing number assigned to the interface that serves the region in which the subscriber is currently located.

34. (Cancelled)

35. (Original) The communications system of claim 33, wherein a control bus is included in the circuitry that routes the call through a path including the interface device that serves the mobile subscriber's home region, and wherein the control bus is coupled to (a) an interface device to the PSTN that serves the subscriber's home region and (b) an interface device to the PSTN that serves a region in which the subscriber is located.

36. (Currently Amended) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to service various geographic regions;

coupled to each interface device, a set of devices for communicating with radio transceivers, each device for communicating with radio transceivers coupled to one or more radio transceivers; and

circuitry coupled to the set of interface devices that, with respect to calls from the PSTN to mobile subscribers, has the same type of interface as the set of devices for communicating with the radio transceivers, and wherein, if a call from the PSTN through an interface device is directed to a subscriber in an area not serviced by the set of devices for communicating with the radio transceivers coupled to the interface, routes the call through a path including the PSTN to an interface device coupled to a set of devices for communicating that service an area in which the subscriber is located;

wherein the portion of the path through the PSTN between the subscriber and the interface device and the mobile subscriber's home region is obtained based on a routing number assigned to the interface that serves the region in which the subscriber is currently located.

37. (Original) The communications system of claim 36, the circuitry coupled to the set of interface devices routing the call without interrogating a centralized database.

38. (Original) The communications system of claim 36, the circuitry coupled to the set of interface devices routing the call without interrogating a home location register (HLR) and without interrogating a visited location register (VLR).

39. (Original) The communications system of claim 36, wherein the set of devices for communicating with the radio transceivers comprise radio port controllers (RPCs).

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40. (Currently amended) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to service various geographic regions;

coupled to each interface device, a set of devices for communicating with radio transceivers, each device for communicating with radio transceivers coupled to one or more radio transceivers; and

circuitry coupled to the set of interface devices that, with respect to calls from subscribers to the PSTN, has the same type of interface as a port on the PSTN, and wherein, if a call from a subscriber located outside the subscriber's home area is directed ~~direct~~ to the PSTN, the circuitry coupled to the set of interface devices routes the call to an interface device that serves the subscriber's home area.

41. (Original) The communications system of claim 40, the circuitry coupled to the set of interface devices routing the call without interrogating a centralized database.

42. (Original) The communications system of claim 40, the circuitry coupled to the set of interface devices routing the call without interrogating a home location register (HLR) and without interrogating a visited location register (VLR).

43. (Original) The communications system of claim 40, wherein the port on the PSTN comprises a port of a class 5 switch.

44. (Currently Amended) A method of modifying an existing telephone network, the method comprising:

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locating interface devices in various geographic regions of the telephone network within a national area;

coupling the interface devices to the telephone network in the various geographic regions in the national area, the interface devices coupled to circuitry coupled to radio transceivers that service mobile subscribers that may be located in ones of the various geographic regions, the mobile subscribers each being assigned to a respective geographic region;

wherein the interface devices are coupled to circuitry that, when a subscriber is located in a region in the national area other than in a geographic region to which the subscriber is assigned, routes a call with the mobile subscriber through a path including a radio transceiver in the region in which the mobile subscriber is currently located and an interface device in the region to which the subscriber is assigned.

45. (Original) The method of claim 44, wherein the path between the radio transceiver and the interface device in the region to which the subscriber is assigned includes an E1 link.

46. (Original) The method of claim 44, wherein, for calls with the subscriber located in a region other than the geographic region to which the subscriber is assigned, billing information is passed to the existing network regarding location of the subscriber only through the interface in the region to which the subscriber is assigned.

47. (Currently Amended) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to be located in various geographic regions in a national area;

radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region in the national area; and

circuitry coupled to the set of interfaces that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device in the mobile subscriber's home region;

wherein the path between the subscriber and the interface device in the mobile subscriber's home region includes a portion of the PSTN.

48. (New) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region;

wherein the circuitry coupled to the set of interfaces comprises computer systems located in different areas, a computer system located in each respective area routing calls between the interfaces in the respective area.

49. (New) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

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radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region;

wherein the circuitry coupled to the set of interfaces comprises multiple computer systems, each computer system coupled to sets of bearer and control channels and each computer system coupled to the other computer systems by a common control bus.

50. (New) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region;

wherein the interface devices include roaming gateways coupled to the PSTN and coupled via a control bus to the circuitry that routes the call.

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51. (New) A communications system comprising:

a set of interface devices adapted to be coupled to a PSTN, the interface devices configured to serve various geographic regions;

radio transceivers coupled to interface devices in the set of interface devices, the radio transceivers for communication with mobile subscribers, the mobile subscribers each having a home region; and

circuitry coupled to the set of interfaces that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves in the mobile subscriber's home region;

wherein the path between the subscriber and the interface device in the mobile subscriber's home region includes a portion of the PSTN; and

wherein a control bus is included in the circuitry that routes the call through a path including the interface device that serves the mobile subscriber's home region, and wherein the control bus is coupled to (a) an interface device to the PSTN that serves the subscriber's

home region and (b) an interface device to the PSTN that serves a region in which the subscriber is located.

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